Appl. No.: 09/698,970   APP 1206
Amdt. Dated: September 16, 2004
Reply to Final Rejection of: July 28, 2004

<u>Listing of Claims:</u>

Claim 1 (currently amended): A method for establishing reliable communications between
two points in a mobile wireless network, wherein said first point comprises a first mobile
wireless node, <u>and</u> said second point comprises a plurality of mobile wireless nodes, ~~and said
first node cannot directly reliably communicate with any one of said plurality of nodes at said
second point,~~ said method comprising the steps of:

    creating a neighbor list by each of said plurality of nodes <u>at said second point</u>;

    transmitting a probe from said first node to said plurality of nodes <u>at said second
point</u>;

    forming a receive group, in reaction to receiving said probe, consisting of at least
some of said plurality of nodes <u>at said second point</u> and based on the created neighbor lists
and the received probe's signal quality;

    choosing a controlling node from said receive group; ~~and~~

    ~~receiving at said receive group, under the control of said controlling node, subsequent
signals transmitted by said first node.~~

    <u>transmitting a signal from the first node to the second point;</u>

    <u>receiving by each member of said receive group the signal;</u>

    <u>passing by each member of said receive group a representation of the received signal
to said controlling node; and</u>

    <u>combining by said controlling node the representations of the signal to create a
reliable signal.</u>

Claims 2-3 (cancelled).

Claim 4 (original): The method of claim 1 wherein creating said neighbor list by each of said
plurality of nodes further comprises the steps of:

    probing periodically by each of said plurality of nodes to determine nearby nodes;

    negotiating transmission parameters with nearby nodes to establish reliable
communications; and

    adding said determined nearby nodes to said neighbor list.

Claim 5 (cancelled).

Claim 6 (currently amended): The method of claim ~~5~~ <u>1</u> wherein said step of combining is
performed through incoherent signal combining.

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Claim 7 (currently amended): The method of claim 5 1 wherein said step of combining is performed through coherent signal combining.

Claim 8 (original): The method of claim 7 wherein the coherent signal combining is based on antenna array systems.

Claim 9 (cancelled).

Claim 10 (currently amended): The method of claim 9 1 wherein the step of transmitting said subsequent signals comprises further comprising the steps of:

transferring representations of said a copy of a second subsequent signals signal from said controlling node to each member of said receive group;

transmitting said representations of said second subsequent signals by each member of said receive group said second signal to said first node; and

combining said representations of said second subsequent signals at by said first node received representations of said second signal thereby establishing creating a second reliable signal.

Claim 11-12 (cancelled).

Claim 13 (currently amended): A method for establishing reliable communications between two points in a mobile wireless network, wherein said first point comprises a first plurality of mobile wireless nodes, said second point comprises a second plurality of mobile wireless nodes, said method comprising the steps of:

creating a neighbor list by each of said plurality of nodes at said first and second points;

transmitting a probe from a first node at said first point to said second plurality of nodes;

forming a receive group, in reaction to receiving said probe, consisting of at least some of said second plurality of nodes, wherein said formation is based on said created neighbor lists and said probe's received signal quality;

choosing a controlling node from said receive group;

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receiving by each member of ~~at~~ said receive group, ~~under the control of said controlling node, first subsequent signals~~ a signal transmitted ~~by said first node~~ from said first point;

~~transmitting second subsequent signals from said receive group, under the control of said controlling node, to said first node wherein said second subsequent signals originate from said controlling node~~

passing by each member of said receive group the received signal to said controlling node;

combining at said controlling node the signals passed from said receive group to create a reliable signal;

transferring a copy of a second signal from said controlling node to each member of said receive group; and

transmitting by each member of said receive group said second signal to said first point.

Claim 14-16 (cancelled).

Claim 17 (original): A method for operating a mobile wireless communications network comprised of a first plurality of mobile wireless nodes at a first point, a second plurality of mobile wireless nodes at a second point, wherein no two nodes between said first and second points can directly reliably communicate, wherein a subset of said first plurality of nodes have formed a first dynamic group consisting of a first controlling node, and wherein a subset of said second plurality of nodes have formed a second dynamic group consisting of a second controlling node, said method whereby said first controlling node reliably passes data to said second controlling node comprising the steps of:

passing a first representation of said data from said first controlling node to each member of said first dynamic group;

transmitting said first representations of said data from each member of said first dynamic group to said second point;

receiving said transmitted data at each member of said second dynamic group;

passing second representations of said data received by each member of said second dynamic group to said second controlling node; and

combining said second representations at said second controlling node to create a reliable signal.

Claim 18 (cancelled).

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Claim 19 (currently amended): A method for establishing reliable communications between a first point and a second point in a wireless network, wherein said first point includes an originating mobile wireless subset and said second point includes a plurality of mobile wireless subsets, said method comprising the steps of:

creating a neighbor list by each subset at said second point;

based upon said neighbor lists, forming a group consisting of a controlling subset and other subsets at said second point to receive and transmit data between said originating subset and said second point; ~~and;~~

receiving by each member of the group a message transmitted by said originating subset and destined for said second point;

forwarding by each member of the group to the controlling subset ~~of that group all messages received from said originating subset destined for said second point.~~ a representation of the received message; and

combining said representations of said message at said controlling subset to create a reliable signal.

Claim 20-21 (cancelled).

Claim 22 (currently amended): The method of claim 19 further comprising the ~~step~~ steps of:

forwarding by the controlling subset to each member of the group ~~all messages~~ a copy of a second message to be transmitted from said second point to said originating subset;

transmitting by each member of the group the second message to said originating subset; and

combining by said originating subset received representations of said second message.

Claim 23 (cancelled).

Claim 24 (currently amended): A method performed by a wireless node for establishing reliable communications between first and second points wherein said wireless node is at the second point, said method comprising the steps of:

creating a neighbor list of other wireless nodes at the second point;

in response to receiving a probe, communicating with one or more of the other wireless nodes on said neighbor list to form a receive group;

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communicating with members of said receive group to ~~choose~~ become a controlling node ~~from among~~ for the receive group; ~~and~~

~~upon receiving subsequent transmitted signals from the first point, forwarding the signals to the controlling node to establish reliable communications.~~

receiving from each member of the group a representation of data transmitted from the first point;

combining the representations of the data to create a reliable data signal;

transferring a copy of second data to each member of said group intending for each member of the group to transmit its copy of the second data to said first point and intending for said first point to combine received representations of the second data.

Claim 25 (new): The method of claim 13 further comprising the steps of:

prior to transmitting said second signal:

forming a second receive group consisting of at least some of said first plurality of nodes; and

choosing a second controlling node from said second receive group;

receiving said transmitted second signals at each member of said second receive group;

passing by each member of said second receive group a representation of the received second signals to said second controlling node; and

combining said representations at said second controlling node.